West Virginia Department of Environmental Protection
Division of Air Quality

Fact Sheet

For Final Minor Modification Permitting Action Under 45CSR30 and Title V of the Clean Air Act

This Fact Sheet serves to address the changes specific to this Minor Modification, and shall be considered a supplement to the original Fact Sheet corresponding with the issuance of the initial Title V operating permit issued on September 27, 2005.

Permit Number: **R30-05300054-2005**
Applications Received: **March 27, 2009 & May 22, 2009 & August 3, 2009**
Plant Identification Number: **05300054**
Permittee: **M & G Polymers, USA, LLC**
Mailing Address: **State Route 2, Apple Grove, WV 25502-0088**

Permit Action Number: *MM01, MM02, & MM03* Revised: *December 7, 2009*

Physical Location:	Apple Grove, Mason County, West Virginia
UTM Coordinates:	397.861 km Easting • 4,279.973 km Northing • Zone 17
Directions:	Plant is located on WV Route 2 approximately thirteen (13) miles south of Point Pleasant and thirty (30) miles north of Huntington.

Facility Description

M & G Polymers manufactures polyester resin and handles the final product in bagging/packaging, storage, and loading facilities. Infrastructure and support facilities are also located at the site and include boilers, wastewater treatment, warehouses, maintenance shops, and laboratories.

The purpose of MM01 is to prompt the replacement of four "grandfathered" boilers with six smaller boilers and eight space heaters. The new units will not be equipped with emissions control devices; however, two of the boilers will be equipped with low NO_x burners.

The purpose of MM02 is to prompt an increase in production capacities of the CP-3 and CSS-8 production units.

The purpose of MM03 was to add temporary permit conditions to facilitate the re-processing of Therminol T-66 heat transfer fluid. The re-processing will use the existing process equipment and will remove light materials (0.01% Benzene and 99.99% water) that have accumulated in the T-66 fluid during use. Nitrogen (N_2) gas will be used to remove the light materials from the T-66 fluid which in turn will be burned in the

CP-2 Unit's natural gas-fired Hot Oil Heater (CT2-B-9001) The heater has a 99.8% VOC destruction efficiency and emits pollutants to the atmosphere through emission point 2P-9001.

Additional updates were made to prompt changes that will recover the heat from existing vent systems and reduce the amount of natural gas burned at the plant; this required removal of a natural gas boiler and installation of two natural gas-fired space heaters.

A natural gas powered laundry dryer will also be added to this facility. This dryer will not be associated with dry cleaning activities or with steam boilers; therefore, the emissions from this unit are considered de minimis as per 45CSR13, Table 13A.

This facility operated under SIC Code 2821.

Emissions Summary

Replacement of the grandfathered boilers, prompted by MM01, will result in the following reductions in emissions:

Pollutant	Net Change (TPY)
CO	-78.2
NO_x	-101
PM	-7.7
SO_2	-0.61
VOCs	-5.5

The increased production capabilities, prompted by MM02, will result in the following increases in emissions:

Pollutant	Net Change (TPY)
CO	+1.54
NO_x	+1.84
PM	+1.08
SO_2	+0.010
VOCs	+2.133
Ethylene Glycol	+1.05
Acetaldehyde	+0.54
Total HAPs	+1.59

The temporary permit conditions, prompted by MM03, will temporarily increase emissions of benzene by <0.001 TPY.

Recovery of the heat from existing vent systems will result in the following reductions in emissions:

Pollutant	Net Change (TPY)
CO	-2.10
NO_x	-2.41
PM	-0.18
PM10	-0.18
SO_2	-0.015
VOCs	-0.12

Title V Program Applicability Basis

With the proposed changes associated with this modification, this facility no longer maintains the potential to emit over 100 tons per year of nitrogen oxides (NO_x).

However, this facility does maintain the potential to emit over 10 tons per year of ethylene glycol. Due to this facility's potential to emit over 10 tons per year of a single HAP, M & G Polymers, USA, LLC is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

The modification to this facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR2	To Prevent and Control Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers
	45CSR7	To Prevent and Control Particulate Air Pollution from Manufacturing Processes and Associated Operations
	45CSR10	To Prevent and Control Air Pollution from the Emission of Sulfur Oxides
	45CSR13	Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits, and Procedures for Evaluation
	45CSR30	Operating permit requirement.
	45CSR34	Emission Standards for Hazardous Air Pollutants Pursuant to 40 C.F.R. Part 63
	40 C.F.R. 60, Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units
	40 C.F.R. 63, Subpart DDDDD	Boilers and Process Heaters MACT.
State Only:	None.	

Each State and Federally-enforceable condition of the draft Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the draft Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the draft Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR34 and 45CSR30.

Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit *(if any)*
R13-1650I	May 27, 2009	
R13-1650J	July 17, 2009	
R13-1650K	August 20, 2009	
R13-2807T	September 15, 2009	

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table B," which may be downloaded from DAQ's website.

Determinations and Justifications

Modifications to R13-1650

In addition to replacement of the “grandfathered” boilers, this permit has also been updated to address all other modifications made to R13-1650 since the initial Title V issuance.

These modifications include removal of the following:

- Emission Point 3P-4020. The slurry system emissions are now vented to the CP-3 hot oil heater.
- Emission Points 3P-1020 and 3P-2002. Changes were made to the terephthalic acid (TPA) and isophthalic acid (IPA) loading system. Venting from the unloading system/storage silo was changed to a closed loop nitrogen system. Thus, both emission points were relabeled as “None (Closed Loop System)” in R13-1650I. Therefore, they were removed from the Emission Units Table.
- Emission Point 3P-0430. The ethylene glycol (EG) feed tank C3L-F-0430 was removed from service. Storage tanks UTG-F-3020 and UTG-F-3010 are now used to feed EG into the CP-3 production unit.
- Emission Point U-B-1010. This portable boiler was added with MM01. However, this boiler was removed during changes to the facility allowing recovery of the heat from existing vent systems.
- Emission Unit L13-M-3020.

Also included in these modifications is the addition of the following:

- Emission Point 3P-1700. The permit also incorporated several operating requirements for this Hot Oil Heater.

- Emission Point 3P-7210 and Emission Units C34-F-8290 and C34-F-9280 (both part of emission Point 3P-1600). They are part of a new parallel B/4B reactor system added to debottleneck the CP-3 process.
- Emission Points 4P-2002 and 4P-0001 and Emission Unit ID C4Q-A-1297. These were added as part of a new CP-4 Extruder System.
- Emission Points U-B-4003 and U-B-4004. These were added with the removal of U-B-1010.
- Emission Units F-3010, F-4010, C4L-F-2200, C4L-F-5980, C3L-F-6510, C3T-F-0600, C3H-F-4020, C3T-F-1700, C2T-F-2670, and C2T-F-5660.
- Emission Units L14-F-2660 and L14-F-9001 were added to CSS-8 per the request of M&G. They were already listed as part of CSS-7.

The following Hot Oil Heater Requirements were updated:

- The natural gas consumption rate of the hot oil heater [C2T-B-9001] was increased from 25,000 ft^3/hour to 55,312 ft^3/hour and from 219 ft^3/year to 278 ft^3/year in Condition 4.1.2.
- Condition 4.1.3. was reworded to limit two hot oil heaters [C3T-B-1600 and C4T-B-1600]. With this permit modification, they have identical limits.
- Condition 4.1.4. was rewritten to limit the Hot Oil Heater [C3T-F-1700].

The Emission Units Table was updated to reflect the new design capacities prompted by this permit modification.

The Maximum Permitted Emissions table was updated to reflect emission increases associated with this permit modification. Additionally the table was divided into several smaller tables for readability.

Elimination of Boiler Requirements

The boiler requirements in Section 5.0 were removed. This section was initially written for the "grandfathered" boilers. With this permit revision, visible emissions, opacity, and recordkeeping requirements from Section 5.0 were removed since they are now covered elsewhere in the permit:

- Condition 5.1.1., which limited smoke and/or particulate emissions to an opacity of ten (10) percent, is now addressed in Condition 4.1.22.c.
- Condition 5.2.1., which required visible emission observations, is now addressed in Condition 4.1.22.
- Condition 5.4.2., which specified recordkeeping requirements for visible emission observations, is now addressed in Condition 3.4.2.

All of the new boilers have design heat inputs below 10 million BTU/hr. The remainder of Section 5.0 referenced portions of 45CSR2 and 45CSR10 that are not applicable to boilers with a heat input below this threshold:

- Conditions 5.1.2. and 3., 5.3.1.-5.4.1., and 5.5.1. referenced 45CSR§§2-4, 8, and 9. The new boilers are exempt from these requirements per 45CSR§2-11. Therefore, these conditions were removed.
- Condition 5.1.4. referenced 45CSR§10-3. The new boilers are exempt from this requirement per 45CSR§10-10.1. Therefore, this condition was removed.

- Condition 5.1.5. provided a procedure in case the emission limits in Condition 5.1.4. were exceeded. Since, Condition 5.1.4. was removed, this condition is unnecessary and was removed as well.

Temporary Permit Conditions

Section 5.0 was rewritten to include all temporary permit conditions. These temporary permit conditions will remain in effect until permit R13-2807T expires.

To ensure accuracy of the emission calculations, no physical changes to the process equipment are permitted during the execution of these temporary permit conditions, and the amount of fluid regenerated cannot exceed 10,000 gallons.

The emission limits of Table 4.1.6.c. were increased for the duration of the temporary permit conditions. After these permit conditions expire, the limits shall decrease back to their previous limits.

Addition of 112(j) Language

After consultation with US EPA Region III in which DAQ was informed that 112(j) applied to the vacated standard 40 C.F.R. 63, Subpart DDDDD, "National Emission Standards for Hazardous Air Pollutants for Industrial/Commercial/Institutional Boilers and Process Heaters", but that no date of becoming subject was known, the agency determined that inserting a permit condition to address this situation to allow for a permit application shield while US EPA was in the process of re-proposing and re-promulgating a MACT standard was a reasonable course of action and use of limited resources. The agency's current position to delay the 112(j) reviews is based on the September 10, 2009 order filed by the United States District Court for the District of Columbia for US EPA to issue a new Boiler and Process Heater MACT to be proposed by April 15,2010 and promulgated by December 16, 2010; to maintain national consistency; and to most effectively use agency resources.

Non-Applicability Determinations

The following requirements have been determined not to be applicable to the subject facility due to the following:

40 C.F.R. 60, Subpart Dc. "Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units." All new boilers installed have a maximum design heat input capacity below 10 MMBTU/hr; therefore Subpart Dc does not apply according to 40 C.F.R. §60.40c(a).

Request for Variances or Alternatives

None

Insignificant Activities

Insignificant emission unit(s) and activities are identified in the Title V application.

Comment Period

Beginning Date: Not Applicable
Ending Date: Not Applicable

All written comments should be addressed to the following individual and office:

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Title V Permit Writer
West Virginia Department of Environmental Protection
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Point of Contact

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Response to Comments (Statement of Basis)

Not applicable.